

CLAIMS

1. A method for producing a hematopoietic stem cell or a vascular endothelial precursor cell, wherein the method comprises the steps of:
 - 5 (1) separating a PCLP1-positive cell from a hematopoietic tissue of an individual;
 - (2) inducing a hematopoietic stem cell or a vascular endothelial precursor cell by culturing the PCLP1-positive cell; and
 - (3) collecting the hematopoietic stem cell or vascular endothelial precursor cell from the culture of (2).
- 10 2. The method of claim 1, wherein the PCLP1-positive cell is a c-Kit-positive cell, and the method comprises the step of collecting the hematopoietic stem cell.
- 15 3. The method of claim 1, wherein the PCLP1-positive cell is an erythroblast cell surface antigen-negative cell, and the method comprises the step of collecting the vascular endothelial precursor cell.
- 20 4. The method of claim 3, wherein the PCLP1-positive cell is an erythroblast cell surface antigen-negative and CD45-negative cell.
- 25 5. The method of claim 1, wherein the hematopoietic tissue is bone marrow.
6. The method of claim 5, which comprises the step of collecting a vascular endothelial precursor cell.
7. The method of claim 5, which comprises the step of collecting a hematopoietic stem cell.
8. The method of claim 5, wherein the PCLP1-positive cell is a CD34-positive cell.
- 30 9. The method of claim 1, wherein the hematopoietic tissue is spleen tissue.
10. The method of claim 9, which comprises the step of collecting a vascular endothelial precursor cell.
- 35 11. The method of claim 9, which comprises the step of collecting a hematopoietic stem cell.

12. The method of claim 1, wherein step (2) is the step of co-culturing a PCLP1-positive cell with a stromal cell.

13. The method of claim 12, wherein a PCLP1-positive cell and a stromal cell are co-cultured in the presence of oncostatin M (OSM), basic fibroblast growth factor (bFGF), and stem cell factor (SCF).

14. The method of claim 1, wherein step (2) is the step of culturing a PCLP1-positive cell in the presence of a humoral factor present in the culture of a stromal cell.

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15. A hematopoietic stem cell or vascular endothelial precursor cell produced by the method of claim 1.

16. A kit for producing a hematopoietic stem cell or a vascular endothelial precursor cell, wherein the kit comprises the following elements:

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- (a) a reagent for detecting the level of PCLP1 expression; and
- (b) a medium for culturing a PCLP1-positive cell.

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17. The kit of claim 16, which additionally comprises (c) a stromal cell.

18. The kit of claim 16, which additionally comprises (d) a reagent for detecting the level of expression of at least one cell surface antigen selected from the group consisting of an erythroblast cell surface antigen, CD45, and CD34.

19. A method for treating a disease caused by a hematopoietic cell deficiency, wherein the method comprises the step of administering a hematopoietic stem cell obtained by the method of claim 1.

20. A method for supplementing a blood cell, which comprises the step of administering a hematopoietic stem cell obtained by the method of claim 1.

21. A method for treating a vascular disease, which comprises the step of administering a vascular endothelial precursor cell obtained by the method of claim 1.

22. A method for detecting a regulatory effect of a test substance on angiogenic activity, wherein the method comprises the steps of:

(1) culturing a vascular endothelial precursor cell obtained by the method of claim 1 with a test substance;

(2) observing the level of growth of the vascular endothelial precursor cell; and

(3) detecting the regulatory effect of the test substance on angiogenic activity when the
5 level of growth is found to differ from that of a control.

23. The method of claim 22, wherein an inhibitory effect on angiogenesis is detected when the level of growth is decreased.

10 24. The method of claim 22, wherein an accelerating effect on angiogenesis is detected when the level of growth is increased.

25. A method of screening for a substance with a regulatory effect on angiogenic activity, wherein the method comprises the steps of:

15 (1) detecting the regulatory effect of a test substance on angiogenic activity as per the method of claim 22; and

(2) selecting a test substance that has a regulatory effect on angiogenic activity.

20 26. An inhibitor or accelerator of angiogenesis, which comprises a substance selected by the method of claim 25 as an active ingredient.

27. An anticancer agent against a cancer cell caused by angiogenesis, wherein the agent comprises, as an active ingredient, a substance with an inhibitory effect on angiogenic activity, where the substance has been selected by the method of claim 25.

25 28. A kit for detecting a regulatory effect on angiogenic activity, wherein the kit comprises the following elements:

a) a vascular endothelial precursor cell obtained by the method of claim 1; and

b) a medium for culturing the cell of a).

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